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NRD

ERRC-165-03

July 16, 2003

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Mr. Jon Cherry, P.E.  
Kennecott Utah Copper Corporation  
8315 West and 3595 South  
P.O. Box 6001  
Magna, Utah, 84044-6001

DIV. OF OIL, GAS & MINING

**RE: Proposal to the Utah State NRD Trustee and USEPA CERCLA Remedial Project Manager for a Groundwater Extraction and Treatment Remedial Project in the Southwest Jordan Valley, revision date of April 25, 2003.**

Dear Mr. Cherry,

The Utah Department of Environmental Quality (DEQ) and the Utah Department of Natural Resources (DNR) have received and completed a review of the revised proposal, referenced above. The DEQ and the DNR have the following concerns with the proposal. Please address your attention to the enclosure.

Though the DEQ and the DNR have raised the enclosed concerns, both offices do not feel that this should preclude the State Trustee from pursuing a public comment period. Upon revising the NRD Proposal to address some of the textual corrections, the DEQ and the DNR are advising the State Trustee to move ahead with a public comment period.

If you have any questions, please feel free to contact me at (801) 536-4282.

Sincerely,

Douglas C. Bacon, Project Manager  
Division of Environmental Response and Remediation

DCB/lfh

0016

Enclosure(s)

cc: Dr. Dianne Nielson, Department of Environmental Quality  
Fred Nelson, State of Utah, Attorney General Office  
Dr. Eva Hoffman, U.S. Environmental Protection Agency, Region VIII  
Richard Bay, Jordan Valley Water Conservancy District  
Daniel Hall, State of Utah, Division of Water Quality  
Tom Munson, State of Utah, Division of Oil, Gas and Mining  
Frank Roberts, State of Utah, Division of Drinking Water  
Elizabeth Yeomans, State of Utah, Division of Environmental Response and Remediation  
Patti Pavey, M.S., Director, Salt Lake Valley Health Department

**DERR Comments on the Proposal to the Utah State NRD Trustee and USEPA CERCLA  
Remedial Project Manager for a Groundwater Extraction and Treatment Remedial Project  
in the Southwest Jordan Valley**

**General Comment:**

1) The DERR is concerned about the lack of design specifications for the Zone B and "Lost Use" treatment proposal, particularly concerning the containment of the Zone B sulfate plume. The two parties (KUCC and the JWCD) both have stated that one of the purposes of the proposed project includes, "Containment of the elevated sulfate ground water plumes" to "keep them from spreading" (NRD Proposal, page 9). The DEQ has expressed in the past concerns related to technical items discussed on a conceptual level within previous drafts of this proposal. The DEQ requests that the proposal indicate that detailed plans for Zone B will be submitted for review similar to the process for Zone A.

2) To provide the water lost due to treatment of contaminated water from Zone B, the JWCD and KUCC have proposed to make up the lost water through extraction and treatment of shallow ground water. This "Lost Use" water would be extracted from the shallow aquifer through a series of five wells located near the Jordan River. It appears that the shallow water wells (SW 1-5) are located directly west and south of the Sharon Steel Superfund site in Midvale, Utah, under which lies an arsenic plume in the upper unconfined sand and gravel aquifer.

According to the *Final Declaration for the Record of Decision – Sharon Steel (Operable Unit 01)*, "the monitoring and possible treatment of the unconfined upper sand and gravel groundwater will serve to contain contaminated groundwater and prevent offsite migration in the upper sand and gravel [aquifer] beneath the OU1 tailings" (page 61, 11<sup>th</sup> bullet). Please explain if the siting and pumping rate of the proposed shallow water wells will impact the containment of the Sharon Steel arsenic plume. This concern could be addressed in the design work plan requested in General Comment #1.

**Specific Comments:**

1) Page 6, Section 2.1 Natural Resource Damage Claim and Consent Decree (UDEQ), 13<sup>th</sup> paragraph, Item #b: It states that one of the requirements that KUCC must satisfy to receive a reduction of the Zone A ILC is extraction of the contaminated water which must proportionately prevent or reduce the spread of the aquifer contamination. The public needs to be aware that for Zone A, reduction of sulfate is supposed to be tied to production of water for a full rebate of the Trust Fund. Please correct the reference to the NRD CD and Supporting Document to read the following: "Contain the elevated sulfate groundwater plumes and keep them from spreading by removing a proportionate amount of sulfate while producing treated municipal quality water for the benefit of the public in the affected area."

2) Page 9, Section 3.1 Meet the Requirements and Intent of the NRD Consent Decree, 1<sup>st</sup> paragraph, 1<sup>st</sup> bullet: It states that one of the purposes of the project is to contain the elevated sulfate groundwater plumes and keep them from spreading. The NRD CD contemplated this by requiring a proportionate reduction of sulfate by extraction and treatment of contaminated water. Please change the bullet to read, "Contain the elevated sulfate groundwater plumes and keep them from spreading by removing a proportionate amount of sulfate while producing treated municipal quality water for the benefit of the public in the affected area."

3) Page 14, Section 5.4 Water Treatment Plants, 9<sup>th</sup> paragraph, 2<sup>nd</sup> sentence: It states that the Zone A pilot study report is available upon request. This pilot study report needs to be included as an attachment to the NRD Proposal prior to the public comment period.

4) Page 17, Section 5.6 Concentrate Disposal, 11<sup>th</sup> paragraph, 2<sup>nd</sup> bullet: It states that after mine closure or shutdown, the Zone A treatment concentrates will be permitted to discharge to the Great Salt Lake. It should be noted that this permitted activity is not assured at this time and will need to be addressed at the time of mine closure or shutdown. Please confirm that KUCC will seek a discharge permit for the disposal of Zone A concentrate to the Great Salt Lake.

5) Page 32, Section 10.1 Zone A Plant, 2<sup>nd</sup> paragraph, last sentence: It states, "At KUCC's discretion, the ownership, operations, and/or maintenance of the Zone A Plant may be transferred to JVWCD or another entity at a future time." To remain consistent with the State Agreement, it should be noted that the State Trustee will be involved in the selection of another owner or operator who will purvey the water from the treatment project to the public in the affected area. Please revise the text.

6) Page 34, Table 11.0A Allocation of Zone A Treated Water Among Affected Municipalities, Note – A: It states in the note, "These allocations will be held for the Affected Municipalities through September 2008." The DERR is concerned about this statement being misunderstood by the Affected Municipalities and the public. It needs to be clearly stated that the water is available to the public via the four municipalities through allocation until the end of the project's life. Please correct any other references (i.e., Page 36, Section 11.0, 5<sup>th</sup> paragraph, 2<sup>nd</sup> bullet) in the NRD Proposal that reflect the time frame water will be provided.

7) Page 40, Section 13.2 Contract Mileposts, 1<sup>st</sup> paragraph, bulleted list: One of the underlying concepts is that the JVWCD has stated they will not sign the project agreements until they have received the UPDES permit for the discharge of Zone B/Lost Use concentrates to the Jordan River. The receipt of the UPDES permit for the Zone B/Lost Use facilities needs to be added as a bulleted item; please make this addition.

8) Page 42, Section 14.1 Zone A, 2<sup>nd</sup> paragraph, 7<sup>th</sup> sentence: It states parenthetically, "An alternative approach will be developed if this plan for managing concentrate streams becomes infeasible." During the review of the CERCLA Remedial Design Work Plan and the Remedial Action Final Design, the DEQ stated that KUCC needed to present a plan (based on a worst case scenario) for disposal of the treatment concentrates if the tailings line or impoundment could no longer be used. This plan, with as much design information as possible, needs to be included in this proposal for review by the public.

**DWQ's Comments on the Proposal to the Utah State NRD Trustee and USEPA CERCLA  
Remedial Project Manager for a Groundwater Extraction and Treatment Remedial Project  
in the Southwest Jordan Valley**

**Specific Comment:**

1) The Division of Water Quality's (DWQ) primary concern regarding the proposal is the possible conflict between "b", "The extraction of the contaminated water must proportionately prevent or reduce the spread of aquifer contamination" and "c", "The municipal quality water must be a sustainable water supply of 40 years or more" on page 6 of the draft proposal. The amount of pumping proposed is an increase over previous pumping in an area that has already shown large declines in water levels. The ability to provide a sustainable water supply for 40 years is uncertain given past water declines and the proposed increase in pumping. The DWQ realizes that the final pumping configuration (rates and locations) is not final and may change over the course of the project to accommodate information collected as the project proceeds. The DWQ also acknowledges that the project will be closely monitored through a large network of monitoring wells. In any event, the DWQ maintains that plume containment should be the primary focus of the project.

2) The calculation for treatment allocation under section 11.0 and appendix F is unclear. Table 7.2A shows West Jordan with only 723 acre-feet of approved water rights for withdrawal, yet the proposal talks about limiting West Jordan to 3,000-4,000 acre-feet for best management of the aquifer. Historically West Jordan has pumped as high as 6,000-8,000 acre-feet per year. Please explain the discrepancy.

**DDW's Comments on the Proposal to the Utah State NRD Trustee and USEPA CERCLA  
Remedial Project Manager for a Groundwater Extraction and Treatment Remedial Project  
in the Southwest Jordan Valley**

**General Comment:**

1) The Division of Drinking Water (DDW) agrees with the principal concepts of the project. The proposed treatment process, removing contaminants with a reverse osmosis membrane as the central component of a full treatment process, can meet the rules and regulations under the Safe Drinking Water Act enforced by the DDW. Of course there are matters that will require discussion and resolution between Kennecott Utah Copper Corporation, the Jordan Valley Water Conservancy District and the DDW as the project proceeds:

- A. Source Protection Plans. The shallow wells have been classified as groundwater sources and shall meet the requirements of R309-600 Source Protection for Ground-Water Sources.
- B. Bypass Water. The proposed bypass treatment process adequately treats for biological contamination; however some chemical contaminants not removed by the process may present a concern, even at low concentrations. We will address our concerns during the design and review process.

The project must comply with the provisions of R309, the laws, rules and guidance governing public drinking water systems in the State of Utah. The project shall follow the DDW's construction approval process, which includes project notification, plan approval and issuance of an operating permit.